

# **13** Elements of Stormwater Pollution Prevention Plans

- Mark Clearing Limits
- Establish Construction Access
- Control Flow Rates
- Install Sediment Controls
- Stabilize Soils
- Protect Slopes
- Protect Drain Inlets
- Stabilize Channels & Outlets
- Control Pollutants
- Control De-watering
- Maintain BMPs
- Manage the Project
- **Protect LID BMPs**

# **SWPPP Element 13:**

## **Protect Low Impact Development (LID) BMPs**

### **WHY:**

Reduce the disruption of the natural site hydrology.

Compacted soils do not infiltrate

LID BMPs are permanent facilities.

Save time and money by not ruining soil structure.

# SWPPP Element 13:

## Protect LID BMPs

WHEN:

Before beginning land-disturbing activities

WHAT:

Mark off all LID BMPs with infiltration

HOW:

With fences, barriers, flagging and signage.

WHEN:

After excavation to final grade.

What

Protect LID BMPs from compaction

Protect LID BMPs from siltation

# SWPPP Element 13:

## Protect LID BMPs

### 13. Protect Low Impact Development (LID) BMPs

The primary purpose of LID BMPs/On-site LID Stormwater Management BMPs is to reduce the disruption of the natural site hydrology. LID BMPs are permanent facilities.

- a. Permittees must protect all Bioretention and Rain Garden facilities from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the facilities to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden Bioretention/Rain Garden soils, and replacing the removed soils with soils meeting the design specification.
- b. Permittees must maintain the infiltration capabilities of Bioretention and Rain Garden facilities by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.
- c. Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements.
- d. Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.
- e. Permittees must keep all heavy equipment off existing soils under LID facilities that have been excavated to final grade to retain the infiltration rate of the soils.

# SWPPP Element 13:

## Protect LID BMPs

- a. Protect Bioretention & Rain Garden facilities
  - Remove Sediment Fouled Soils & Replace with designed Soils
- b. Protect from Compaction - Facilities must infiltrate
  - Lawn & landscaped areas included
- c. Protect permeable pavements from sediment
  - Before, during and after instillation – No muddy traffic or flows
- d. Clean fouled permeable pavers if fouled
- e. Keep Off – LID facilities at final grade
  - Retain infiltration rates

# SWPPP Element 13: Protect LID BMPs

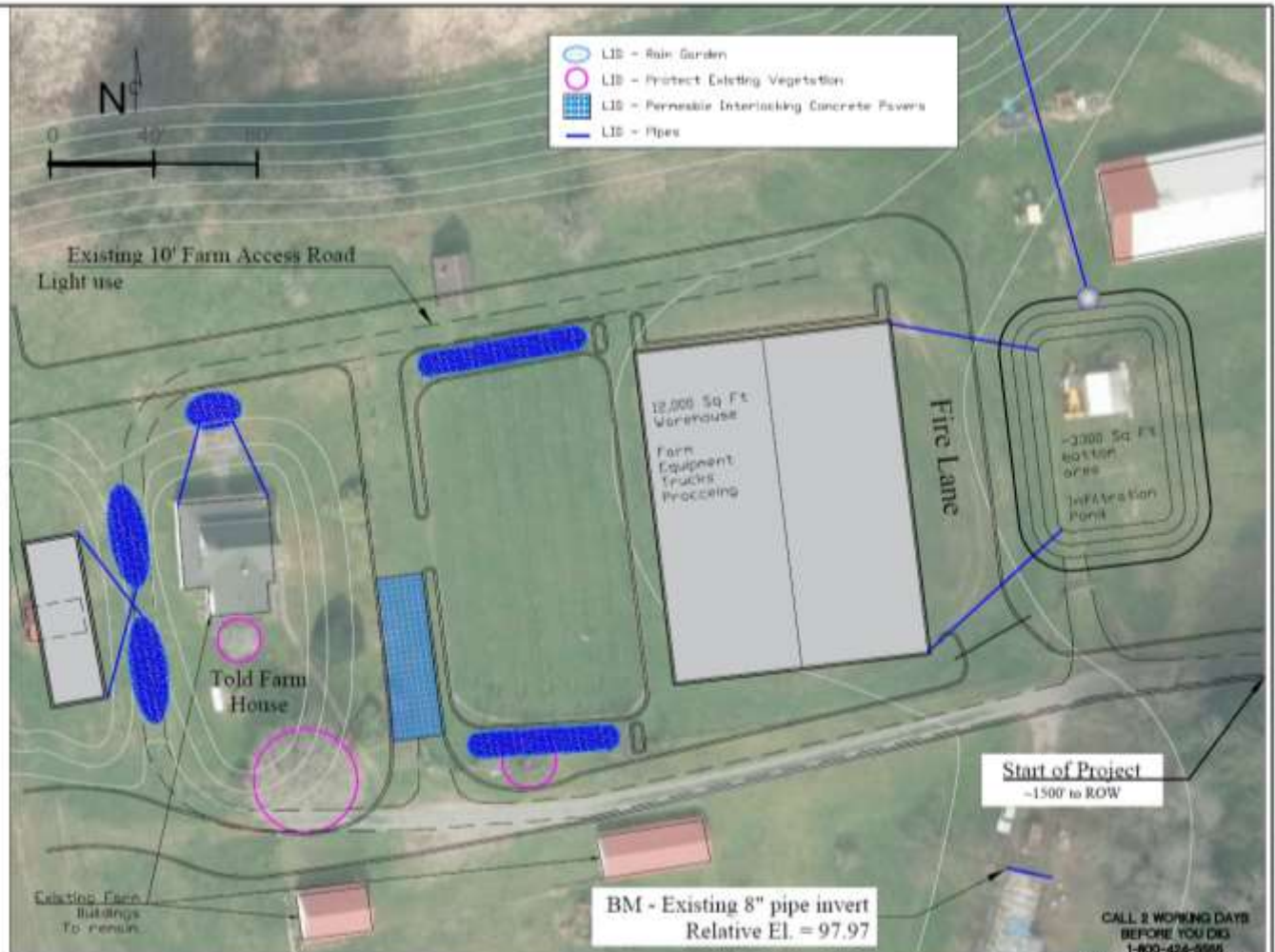
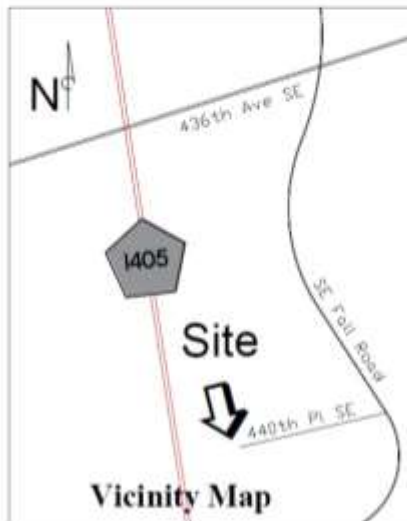
## Told 2016 Ag. Asst. Project

PROJECT SCOPE:

All work will be done following the Ag. BMP Manual

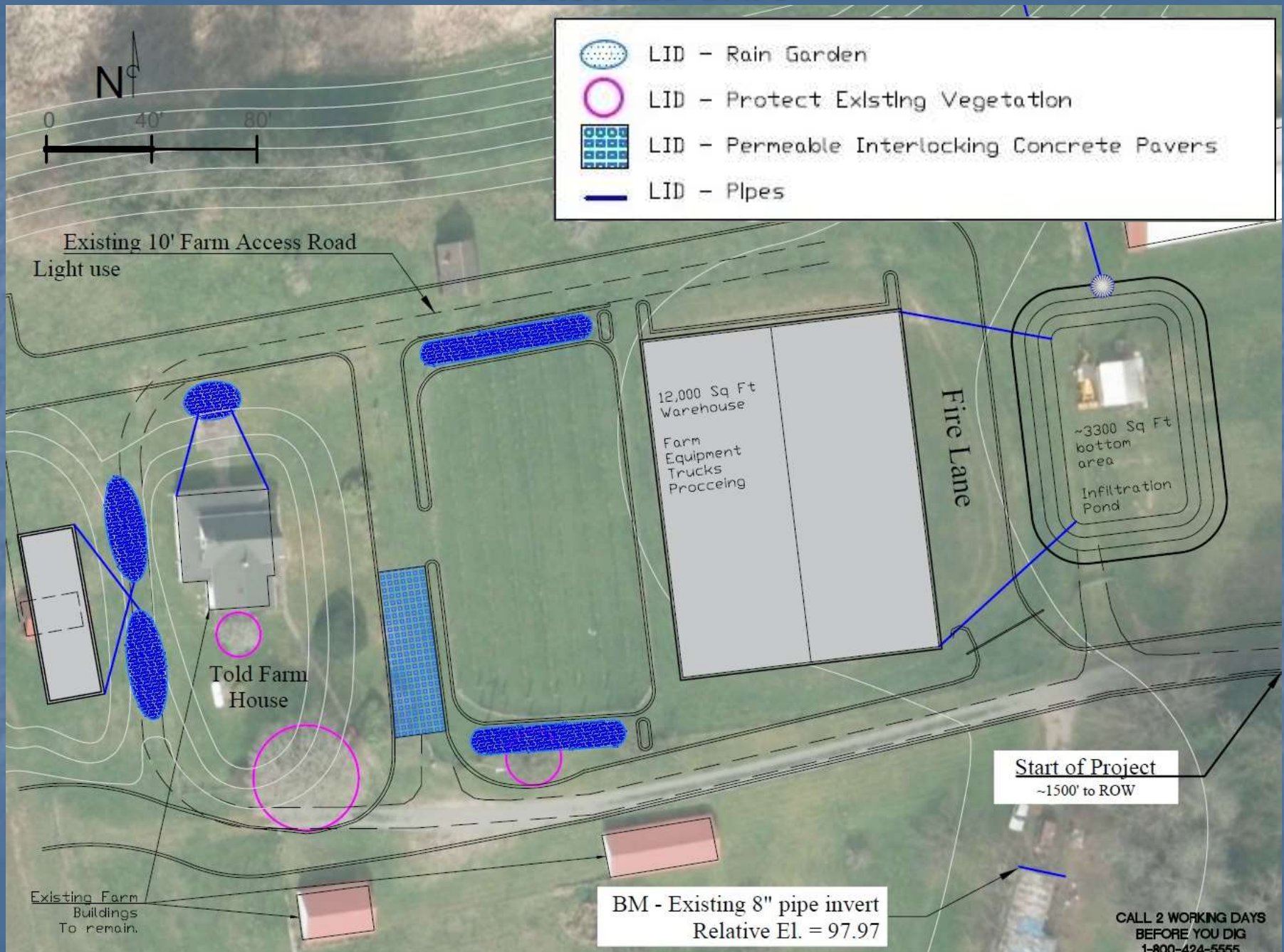
New Warehouse, guest residence, parking lot, pervious paver drive and upgraded access road

LID Rain Gardens, one for house, two for guest residence, two for parking lot.

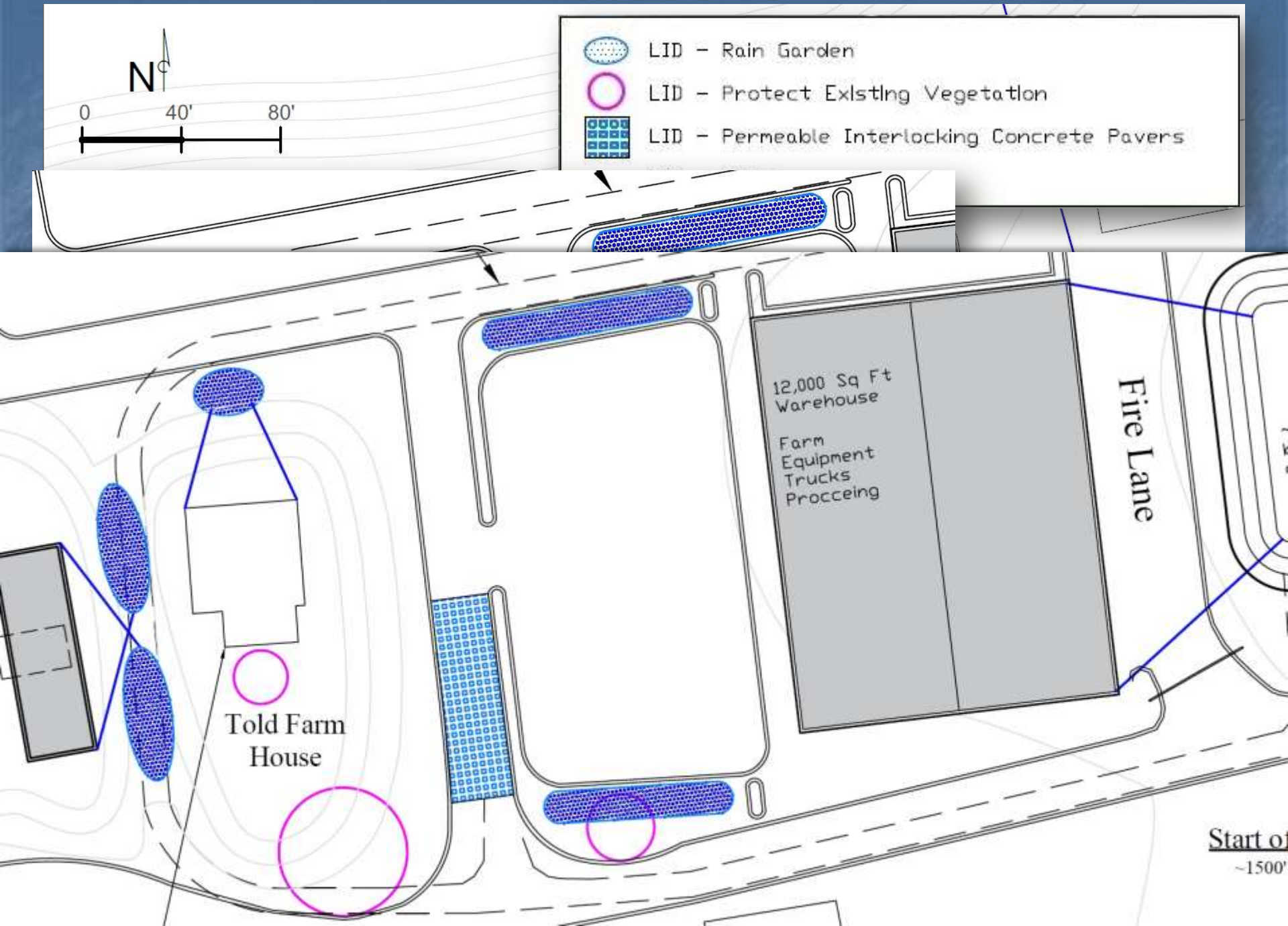


FIELD BOOK: 55 55-1133	PROJECT: 55	FED. AID No.: 55	 <b>King County</b> Department of Public Resources and Parks Water and Land Resources Division Stormwater Services Section Lorraine Ryan, Director	<b>Told 2014 Farm Expansion</b> <b>Ag Assistance Project</b> <b>440 SE Fall Road</b> <b>Cotton, WA 98041</b> <b>LID - Aerial Plan + Vicinity</b>	SHEET 1 OF <b>3</b> 5-SE-175 <b>Told 15</b>
DRAWN: MATH. 5502/2MA 2200	PROJECT MANAGER: Doug Norstrom 55	PROJECT No.: 55			
SURVEY DATE MAP: 55 55-1000	DESIGNED: BILLY J. SUNDSTROM 55	SURVEY No.: 55			
CHECKED: 55 55-1000	55	MAINTENANCE DIVISION No.: 55			
DATE: 55 55-1000	55	55			

# Protect LID BMPs



# Protect LID BMPs



# SWPPP Element 13:

## Protect LID BMPs – a.

- Permittees must protect all Bioretention and Rain Garden facilities from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities.
- Restore the facilities to their fully functioning condition if they accumulate sediment during construction.
- Restoring the facility must include removal of sediment and any sediment-laden Bioretention/Rain Garden soils, and replacing the removed soils with soils meeting the design specification.

# SWPPP Element 13:

## Protect LID BMPs – b.

- Permittees must maintain the infiltration capabilities of Bioretention and Rain Garden facilities by protecting against compaction by construction equipment and foot traffic.
- Protect completed lawn and landscaped areas from compaction due to construction equipment.



# SWPPP Element 13:

## Protect LID BMPs – c.

- ◆ Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements.
- ◆ Do not allow muddy construction equipment on the base material or pavement.
- ◆ Do not allow sediment-laden runoff onto permeable pavements.



# SWPPP Element 13: Protect LID BMPs – d.

- Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.



<http://www.pavedrain.com/>



David Hein, ABA

# SWPPP Element 13: Protect LID BMPs – e.

- Permittees must keep all heavy equipment off existing soils under LID facilities that have been excavated to final grade to retain the infiltration rate of the soils.



# SWPPP Element 13:

## Protect LID BMPs

- To the most extent practicable:
  - do not disturbed native vegetation and soil
  - protect final grade soils from the compaction of roads and storage areas
- Protect facilities with fencing
- Restore facilities that are compromised
- Protect LID infiltration facilities from sedimentation

Platt Pond and Langlois Creek; southeast of Carnation  
November 12, 2010



11.12.2010 13:29



11.12.2010 11:29





11.12.2010 15:09





11.12.2010 14:31



11.12.2010 14:39

## Diagram #2 – Platt Pond



Beaver Dam 3 is about 350-450 feet long  
Holds back pond with approximately  
17.75 surface acres

Langlois Creek

Intersection of  
NE 14<sup>th</sup> Street and  
352<sup>nd</sup> Avenue NE

Property owner  
HANCOCK FOREST  
MANAGEMENT

T 25N R7E Section 26 SE

Platt Pond

Beaver Dam 1 is about 350 feet long  
Holds back pond with about 0.53

Parcel Owner at site of Beaver  
Dam break  
DONNA BERG  
3309 84TH SE  
MERCER ISLAND WA 98040

Behind Dam 3 with a water depth of 1-3'  
If the water has an average of 1.5' then  
**26.625 Acre feet of water**  
**+ 1.85 Acre feet**  
up front behind dam 1

